

Claim 5 (Amended). The medicament of claim 1 wherein said halogenated xanthene includes at least one compound selected from the group consisting of 4',5'-Dichlorofluorescein; 2',7'-Dichlorofluorescein; 4,5,6,7-Tetrachlorofluorescein; 2',4',5',7'-Tetrachlorofluorescein; Dibromofluorescein; Solvent Red 72; Diiodofluorescein; Ethyl Eosin; Erythrosin B; Phloxine B; Rose Bengal; 4,5,6,7-Tetrabromoerythrosin; Mono-, Di-, or Tribromoerythrosin; Mono-, Di-, or Trichloroerythrosin; Mono-, Di-, or Trifluoroerythrosin; 2',7'-Dichloro-4,5,6,7-Tetrafluorofluorescein; 2',4,5,6,7,7'-Hexafluorofluorescein; and 4,5,6,7-Tetrafluorofluorescein.

Claim 6 (Amended). The medicament of claim 1 further comprising at least one targeting moiety coupled to said halogenated xanthene.

Claim 7 (Amended). The medicament of claim 6 wherein said targeting moiety is selected from the group consisting of deoxyribonucleic acid (DNA), ribonucleic acid (RNA), amino acids, proteins, antibodies, ligands, haptens, carbohydrate receptors, carbohydrate complexing agents, lipid receptors, lipid complexing agents, protein receptors, protein complexing agents, chelators, encapsulating vehicles, short-chain aliphatic hydrocarbons, long-chain aliphatic hydrocarbons, aromatic hydrocarbons, aldehydes, ketones, alcohols, esters, amides, amines, nitrites, azides, hydrophilic moieties and hydrophobic moieties.

Claim 8 (Amended). The medicament of claim 1 wherein said medicament is formulated in a delivery vehicle selected from the group consisting of liquids, semisolids, solids and aerosols.

Claim 9 (Amended). The medicament of claim 8 wherein said vehicle is selected from the group consisting of aqueous suspensions, non-aqueous suspensions, solutions, creams, ointments, gels, syrups, suppositories, tablets, capsules and micro-droplet sprays.

Claim 10 (Amended). The medicament of claim 1 wherein said halogenated xanthene is in a delivery vehicle that includes an adjuvant selected from the group consisting of builders, stabilizers, emulsifiers, dispersants, preservatives, buffers, electrolytes, tissue penetrating agents and tissue softening agents.

Claim 11 (Amended). The medicament of claim 1 wherein said medicament is for the treatment of indications selected from the group consisting of diseases of the skin, diseases of the mouth and digestive tract, diseases of the urinary and reproductive tracts, diseases of the respiratory tract, diseases of the circulatory system, diseases of the head and neck, diseases of the endocrine and lymphoreticular systems, diseases of connective tissues, diseases of tissue surfaces exposed during surgery, and diseases caused by microbial, viral, fungal, and parasitic infection.

Claim 12 (Amended). The medicament of claim 1 wherein said ionizing radiation is applied x-ray irradiation.

Claim 13 (Amended). The medicament of claim 1 wherein said ionizing radiation is applied gamma irradiation.

Claim 14 (Amended). The medicament of claim 1 wherein said ionizing radiation has an energy of greater than approximately 1 KeV and less than approximately 1000 MeV.

Claim 15 (Amended). The medicament of claim 1 wherein said intracorporeal administration comprises a route of administration selected from the group consisting of intravenous injection, intraperitoneal injection, intramuscular injection, intracranial injection, intratumoral injection, intraepithelial injection, transcutaneous delivery, per oesophageal administration, intraabdominal administration, intraappendicular administration, intraarterial administration, intraarticular administration, intrabronchial administration, intrabuccal administration, intracapsular administration, intracardial administration, intracartilaginous administration, intracavitary administration, intracephalic administration, intracolic administration, intracutaneous administration, intracystic administration, intradermal administration, intraductal administration, intraduodenal administration, intrafascicular administration, intrafat administration, intrafilar administration, intrafissural administration, intragastric administration, intraglandular administration, intrahepatic administration, intrainestinal administration, intralamellar administration, intralesional administration, intraligamentous administration, intralingual administration, intramammary administration, intramedullary administration, intrameningeal administration, intramyocardial administration, intranasal administration, intraocular administration, intraoperative administration, intraoral administration, intraosseous administration, intraovarian administration, intrapancreatic administration, intraparietal administration, intrapelvic administration, intrapericardial administration, intraperineal administration, intraperitoneal administration, intraplacental administration, intrapleural administration, intrapontine administration, intraprostatic administration,

intrapulmonary administration, intrarachidian administration, intrarectal administration, intrarenal administration, intrascleral administration, intrascrotal administration, intrasegmental administration, intrasellar administration, intraspinal administration, intrasplenic administration, intrasternal administration, intrastromal administration, intrasynovial administration, intratarsal administration, intratesticular administration, intrathoracic administration, intratonsillar administration, intratracheal administration, intratubal administration, intratympanic administration, intraureteral administration, intraurethral administration, intrauterine administration, intravaginal administration, intravascular administration, intraventricular administration, intravertebral administration, intravesical administration, and intravitreal administration.

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Claim 16 (Amended). Use of a halogenated xanthene as a radiodense component in the preparation of an intracorporeal medicament for high energy phototherapeutic treatment of human and animal tissue using applied ionizing radiation.

Claim 17 (Amended). The use of claim 16 for preparation of a medicament for the treatment of indications selected from the group consisting of diseases of the skin and related organs, diseases of the mouth and digestive tract and related organs, diseases of the urinary and reproductive tracts and related organs, diseases of the respiratory tract and related organs, diseases of the circulatory system and related organs, diseases of the head and neck, diseases of the endocrine and lymphoreticular systems and related organs, diseases of connective tissues, diseases of tissue surfaces exposed during surgery, and diseases caused by microbial, viral, fungal, and parasitic infection.

Claim 18 (Amended). The use of claim 16 wherein said halogenated xanthene comprises Rose Bengal.

Claim 19 (Amended). The use of claim 16 wherein said halogenated xanthene comprises 4,5,6,7-Tetrabromoerythrosin.

Claim 20 (Amended). The use of claim 16 wherein said ionizing radiation is applied ionizing radiation is x-ray irradiation.

Claim 21 (Amended). The use of claim 16 wherein said ionizing radiation is applied ionizing radiation is gamma irradiation.

Claim 22 (Amended). Intracorporeal use of a halogenated xanthene comprising: administering a halogenated xanthene into or proximate to human or animal tissue and irradiating the halogenated xanthene present within or proximate to said tissue with applied ionizing radiation.

Claim 23 (Amended). The use of claim 22 wherein said halogenated xanthene comprises Rose Bengal.

Claim 24 (Amended). The use of claim 22 wherein said halogenated xanthene comprises 4,5,6,7-Tetrabromoerythrosin.

Claim 25 (Amended). The use of claim 22 wherein said applied ionizing radiation is x-ray irradiation.

Claim 26 (Amended). The use of claim 22 wherein said applied ionizing radiation is gamma irradiation.

Claim 27 (Amended). The use of claim 22 wherein said halogenated xanthene is at a concentration of greater than approximately 0.001% to less than approximately 20%.

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Claim 28 (Amended). The use of claim 22 wherein said administering comprises use of a route of administration selected from the group consisting of intravenous injection, intraperitoneal injection, intramuscular injection, intracranial injection, intratumoral injection, intraepithelial injection, transcutaneous delivery, per oesophageal administration, intraabdominal administration, intraappendicular administration, intraarterial administration, intraarticular administration, intrabronchial administration, intrabuccal administration, intracapsular administration, intracardial administration, intracartilaginous administration, intracavitary administration, intracephalic administration, intracolic administration, intracutaneous administration, intracystic administration, intradermal administration, intraductal administration, intraduodenal administration, intrafascicular administration, intrafat administration, intrafilar administration, intrafissural administration, intragastric administration, intraglandular administration, intrahepatic administration, intrainestinal administration, intralamellar administration, intralesional administration, intraligamentous administration, intralingual administration, intramammary administration, intramedullary

administration, intrameningeal administration, intramyocardial administration, intranasal administration, intraocular administration, intraoperative administration, intraoral administration, intraosseous administration, intraovarian administration, intrapancreatic administration, intraparietal administration, intrapelvic administration, intrapericardial administration, intraperineal administration, intraperitoneal administration, intraplacental administration, intrapleural administration, intrapontine administration, intraprostatic administration, intrapulmonary administration, intrarachidian administration, intrarectal administration, intrarenal administration, intrascleral administration, intrascrotal administration, intrasegmental administration, intrasellar administration, intraspinal administration, intrasplenic administration, intrasternal administration, intrastromal administration, intrasynovial administration, intratarsal administration, intratesticular administration, intrathoracic administration, intratonsillar administration, intratracheal administration, intratubal administration, intratympanic administration, intraureteral administration, intraurethral administration, intrauterine administration, intravaginal administration, intravascular administration, intraventricular administration, intravertebral administration, intravesical administration, and intravitreous administration.

Claim 29 (Amended). A pharmaceutical composition for intracorporeal administration comprising a halogenated xanthene for high energy phototherapeutic treatment using applied ionizing radiation.

Claim 30 (Amended). The pharmaceutical composition of claim 29 wherein said halogenated xanthene is present in a concentration of greater than about 0.001% to less than about 20%.

Claim 31 (Amended). The pharmaceutical composition of claim 29 wherein said halogenated xanthene comprises Rose Bengal.

Claim 32 (Amended). The pharmaceutical composition of claim 29 wherein said halogenated xanthene comprises 4,5,6,7-Tetrabromoerythrosin.

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Claim 33 (Amended). The pharmaceutical composition of claim 29 wherein said halogenated xanthene includes at least one compound selected from the group consisting of 4',5'-Dichlorofluorescein; 2',7'-Dichlorofluorescein; 4,5,6,7-Tetrachlorofluorescein; 2',4',5',7'-Tetrachlorofluorescein; Dibromofluorescein; Solvent Red 72; Diiodofluorescein; Ethyl Eosin; Erythrosin B; Phloxine B; Rose Bengal; 4,5,6,7-Tetrabromoerythrosin; Mono-, Di-, or Tribromoerythrosin; Mono-, Di-, or Trichloroerythrosin; Mono-, Di-, or Trifluoroerythrosin; 2',7'-Dichloro-4,5,6,7-Tetrafluorofluorescein; 2',4,5,6,7,7'-Hexafluorofluorescein; and 4,5,6,7-Tetrafluorofluorescein.

Claim 34 (Amended). The pharmaceutical composition of claim 29 further comprising at least one targeting moiety coupled to said halogenated xanthene.

Claim 35 (Amended). The pharmaceutical composition of claim 34 wherein said targeting moiety is selected from the group consisting of deoxyribonucleic acid (DNA), ribonucleic acid (RNA), amino acids, proteins, antibodies, ligands, haptens, carbohydrate receptors, carbohydrate complexing agents, lipid receptors, lipid complexing agents, protein receptors, protein complexing agents, chelators, encapsulating vehicles, short-chain aliphatic hydrocarbons, long-chain aliphatic hydrocarbons, aromatic hydrocarbons, aldehydes, ketones, alcohols, esters, amides, amines, nitrites, azides, hydrophilic moieties and hydrophobic moieties.

Claim 36 (Amended). The pharmaceutical composition of claim 29 wherein said pharmaceutical composition is formulated in a delivery vehicle selected from the group consisting of liquids, semisolids, solids and aerosols.

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Claim 37 (Amended). The pharmaceutical composition of claim 36 wherein said vehicle is selected from the group consisting of aqueous suspensions, non-aqueous suspensions, solutions, creams, ointments, gels, syrups, suppositories, tablets, capsules and micro-droplet sprays.

Claim 38 (Amended). The pharmaceutical composition of claim 29 wherein said halogenated xanthene is in a delivery vehicle that includes an adjuvant selected from the group consisting of builders, stabilizers, emulsifiers, dispersants, preservatives, buffers, electrolytes, tissue penetrating agents and tissue softening agents.

Claim 39 (Amended). The pharmaceutical composition of claim 29 wherein said applied

² ionizing radiation is x-ray irradiation.

Claim 40 (Amended). The pharmaceutical composition of claim 29 wherein said applied

ionizing radiation is gamma irradiation.

Claim 46 (Amended). An intracorporeally-applicable medicament comprising at least one

halogenated xanthene as a primary active component, wherein said medicament is for high energy phototherapeutic treatment, using applied ionizing radiation, of human and animal tissue.

Claim 47 (Amended). A pharmaceutical composition for intracorporeal administration comprising a dosage unit of a halogenated xanthene suitable for radiosensitization using applied ionizing radiation.

Claim 48 (Amended). The pharmaceutical composition of claim 47 wherein said applied ionizing radiation is x-ray irradiation.

Claim 49 (Amended). The pharmaceutical composition of claim 47 wherein said applied ionizing radiation is gamma irradiation.

Claim 50 (Amended). The pharmaceutical composition of claim 47 wherein said halogenated xanthene is Rose Bengal.
